

TRIDENT: Advancing Future Deep-sea Neutrino Observatory

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The TRopIcal DEep-sea Neutrino Telescope (TRIDENT), a next-generation neutrino observatory initiated by Shanghai Jiao Tong University, will be deployed in the western Pacific Ocean to investigate high-energy astrophysical neutrino sources. TRIDENT will significantly enhance cosmic neutrino measurements across all flavors, offering unprecedented sensitivity for diverse physics studies. This talk will present TRIDENT's development, including: (1) its inception, (2) 2024 sea trial results, (3) ongoing Phase-I implementation with 10 detector strings, and (4) the planned in-situ calibration strategies. We will highlight the scientific potential for future multi-cubic-kilometer telescope arrays, particularly for dark matter detection.

Collaboration you are representing

TRIDENT

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